

REMARKS

Applicants acknowledge the withdrawal of the 35 USC Section 102 rejections based on Chisholm. Claims 1 and 8 have been amended herein. Claims 1, 6-8, 12, and 13 remain pending. Claims 2-5, 9-11, and 14-20 have been withdrawn without prejudice in response to a restriction requirement. Applicant asserts that the pending claims of the present Application are patentable over the cited art.

35 USC Section 103 Rejections

Paragraphs 6-8 of the above referenced Office Action reject independent Claims 1 and 8 as being rendered obvious by Chisholm (U.S. Patent No. 5,968,143) in view of Wood (U.S. Patent No. 6,915,863) and in further view of Davis (U.S. Patent No. 6,298,407). Applicants respectfully traverse.

Claim 1 has been amended to specifically recite execution of a disk transaction by processing the disk transaction information from a memory mapped bypass register. Claim 1 recites a disk controller for implementing efficient disk I/O for a computer system. The disk controller includes a bus interface for interfacing with a processor and a system memory of the computer system, a disk I/O engine coupled to the bus interface, and a device interface coupled to the disk I/O engine for interfacing the disk I/O engine

with a disk drive. The disk I/O engine is configured to cause a start up of the disk drive upon receiving a disk start up command from the processor, the start up command configured to hide a start latency of the disk drive. The disk I/O engine is further configured to execute a disk transaction by processing the disk transaction information from a memory mapped bypass register coupled to the disk I/O engine.

Accordingly, Claim 1 recites the disk I/O controller causing the startup of the disk drive upon receiving the command, enabling the disk controller to hide the start up latency of the disk drive, and processing this transaction information from a memory mapped bypass register. The bypass registers are memory mapped registers which functioned much faster than the prior art I/O mapped registers. Claim 8 has been amended to include similar limitations.

Applicants point out that Chisholm is directed towards a general computer system that includes a general-purpose DMA controller. Applicant finds Chisholm to be directed towards the transfer of command blocks between a host processor and a local processor. Chisholm describes a system whereby a transfer signal is given to a command block transfer controller to start a command block transfer without a local processor unit intervention. Chisholm is relied upon to show the transferring of a command to a disk

controller, wherein the command causes a start up of a disk drive coupled to the disk controller, as recited in Claim 1. As described above, Chisholm appears to be directed towards the transfer of command blocks between a host processor and a local processor. Chisholm describes a system whereby a transfer signal is given to a command block transfer controller to start a command block transfer without a local processor unit intervention.

There is no description within Chisholm of any memory mapped registers or the use of such memory mapped registers to transfer a disk I/O commands. There is no description within Chisholm of the advantages of using memory mapped bypass registers (e.g., as opposed to I/O mapped registers, etc.) for transferring disk commands.

The Wood reference is relied upon to show the transferring of a start command to an array of disk drives. The Davis reference is relied upon to show a bridge component of a computer system. Applicants point out that the addition of Wood and Davis does not cure the defect of Chisholm. Neither would nor Davis shows disk controller memory mapped bypass registers or the use of such memory mapped bypass registers to transfer a disk I/O command.

Accordingly, Applicant asserts that Chisholm, Wood and Davis combination does not render obvious the claimed invention within the meaning of 35 USC Section 103.

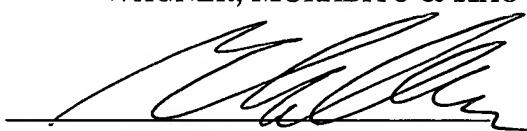
CONCLUSION

Applicant respectfully asserts that all remaining claims (e.g., Claims 1, 6-8, 12, and 13) are in condition for allowance and Applicant earnestly solicits such action from the Examiner. The Examiner is urged to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

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Respectfully submitted,
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